

WIRE SPACING TABLE

COMBINATION WOVEN WIRE & BARBED WIRE FENCE			BARBED WIRE FENCE			
1200 FENCE HEIGHT		1280 FENCE HEIGHT	1.2 m FENCE HEIGHT			
813 WW-2 BW *	813 WW-3 BW *	990 WW-2 BW *	3 BW	4 BW	5 BW	6 BW
TYPE F2-813WW	TYPE F3-813WW	TYPE F2-990WW	TYPE F3	TYPE F4	TYPE F5	TYPE F6

APPROXIMATE WEIGHT OF 813 mm WOVEN WIRE FABRIC (832-6-12.5)
PER 100 m ROD ROLL IS 68 kg \pm 5 kg (NOTE: 12.5 GAGE)
° DENOTES STAPLE LOCATIONS

APPROXIMATE WEIGHT OF 990 WOVEN WIRE FABRIC (939-6-12.5)
PER 100 m ROLL IS 77 kg \pm 5 kg, (NOTE: 12.5 GAGE)

* OTHER WOVEN WIRE HEIGHTS AND NUMBER OF BARBED WIRE COMBINATIONS ARE AVAILABLE.

STAYS

1. USE WIRE STAYS ON ALL FENCES UNLESS WOOD STAYS ARE SPECIFIED.
2. LOCATE STAYS HALFWAY BETWEEN LINE POSTS.
3. WIRE STAYS FOR BARBED WIRE FENCING ARE 50 mm LONGER THAN THE DISTANCE BETWEEN THE TOP AND BOTTOM WIRES.
4. FOR WOVEN WIRE FENCING WITH BARBED WIRE ON TOP, EXTEND WIRE STAYS 150 mm MINIMUM BELOW THE TOP OF THE WOVEN WIRE.
5. WHEN WOOD STAYS ARE SPECIFIED, USE EITHER 50 mm ROUND, A ROUGH DIMENSION 50 mm x 50 mm, OR A 37.5 mm x 87.5 mm (NOMINAL 50 mm x 100 mm). THE STAY MUST BE OF SUFFICIENT LENGTH TO BE PLACED ON THE GROUND WITH THE TOP OF THE STAY EXTENDING 50 mm ABOVE THE TOP WIRE. ATTACH EACH WIRE TO THE WOOD STAYS USING 44 mm x 9 GAGE STAPLES. WOOD STAYS DO NOT NEED TO BE TREATED.

NOTES:

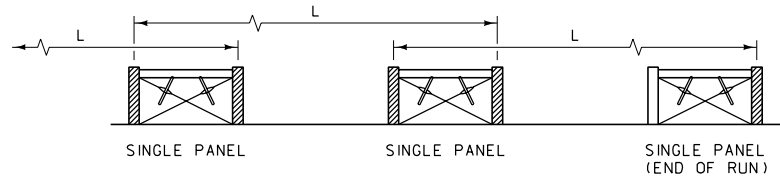
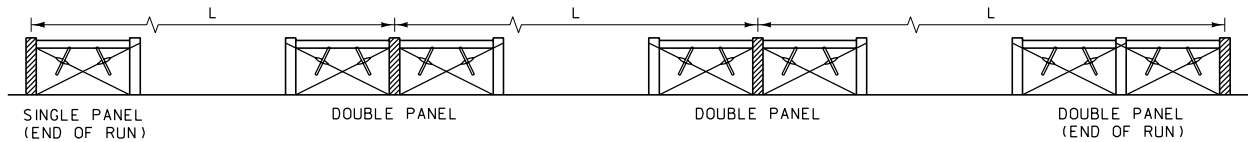
- "M" DENOTES METAL POSTS, EG. TYPE F3M.
- "W" DENOTES WOOD POSTS, EG. TYPE F4W.
- SEE DTL. DWG. NO. 607-05 FOR SINGLE AND DOUBLE PANEL DETAILS.
- SEE DTL. DWG. NO. 607-10 FOR ADDITIONAL FENCING DETAILS.
- SEE THE STANDARD SPECIFICATIONS FOR POST REQUIREMENTS.

ALL DIMENSIONS ARE MILLIMETERS
(mm) UNLESS OTHERWISE NOTED.

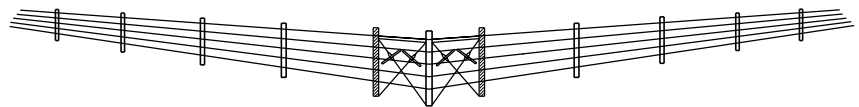
DETAILED DRAWING
REFERENCE DWG. NO.
STANDARD SPEC. 607-00
SECTION 607

FARM FENCE

EFFECTIVE: FEBRUARY 2005



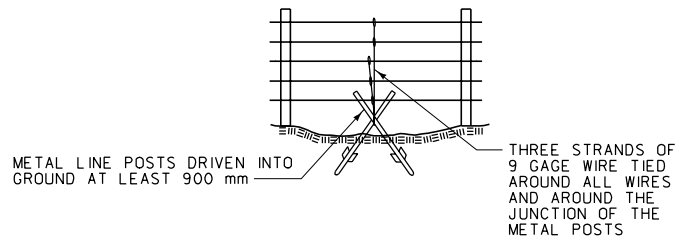
FENCE TYPE	RUN = L (m)	PANELS REQUIRED
COMBINATION WOVEN BARBED	LESS THAN 10	NONE
	10 - 100	SINGLE
	OVER 100 TO 200 MAX.	DOUBLE
BARBED	LESS THAN 20	NONE
	20 - 200	SINGLE
	OVER 200 TO 300 MAX.	DOUBLE



DOUBLE PANEL AT FENCE CORNER OR ANGLE BREAK

FENCE PANEL TYPES

NOTE:
TIE OFF ON ALL CROSS HATCHED OR SHADED POSTS.



ALTERNATE DEADMAN


WHEN APPROVED BY THE ENGINEER THE ABOVE DEADMAN MAY BE USED IN LIEU OF A ROCK OR PRECAST CONCRETE BLOCK AS SPECIFIED ON DTL. DWG. NO. 607-05.

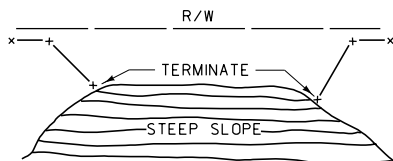
NOTES:

ATTACH BARBED WIRES TO POSTS BY WRAPPING AROUND THE POST AT LEAST TWO TIMES, THEN WRAPPING AROUND ITSELF FIVE TIMES.

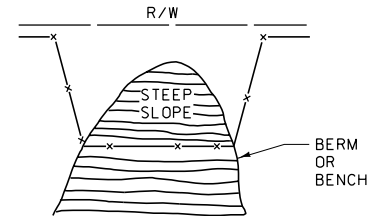
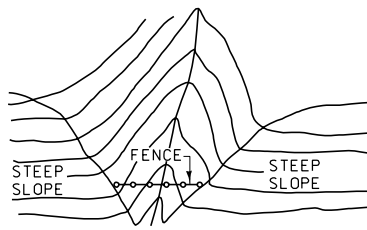
TO ATTACH WOVEN WIRE TO AN END POST, REMOVE TWO OR THREE VERTICAL STAY WIRES FROM THE END OF THE FENCE. PLACE THE FIRST COMPLETE VERTICAL STAY WIRE AGAINST THE POST. START AT THE MIDDLE OF THE HORIZONTAL LINE WIRES, WRAPPING AROUND THE END POST AT LEAST TWO TIMES AND THEN WRAPPING AROUND ITSELF FIVE TIMES.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

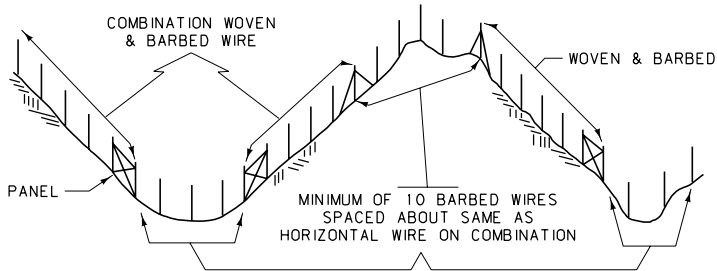
DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 607	DWG. NO. 607-10
FENCING DETAILS	
EFFECTIVE: FEBRUARY 2005	
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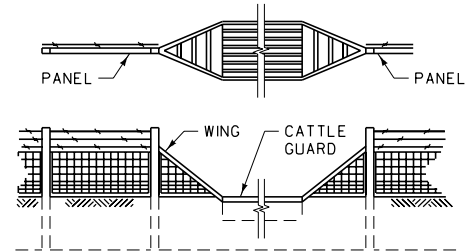
SLOPE MUST BE STEEP ENOUGH TO DETER
PASSAGE OF TRESPASSERS.



FENCE LAYOUT ON STEEP SLOPES

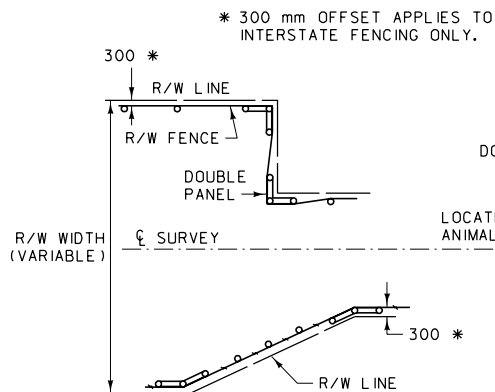


FENCE LAYOUT ON SHARP VERTICAL CURVES TO AVOID TRYING TO CONFORM WOVEN WIRE TO UNEVEN TERRAIN

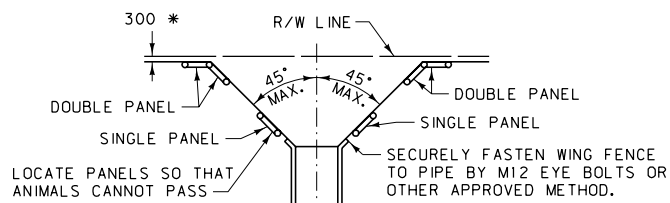


FENCE CONNECTION TO CATTLE GUARD

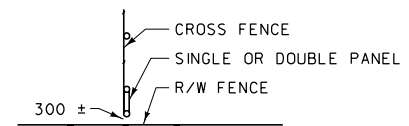
SECURELY FASTEN FENCE WIRE TO THE WINGS
AND ARRANGE SO THAT ANIMALS CANNOT PASS.



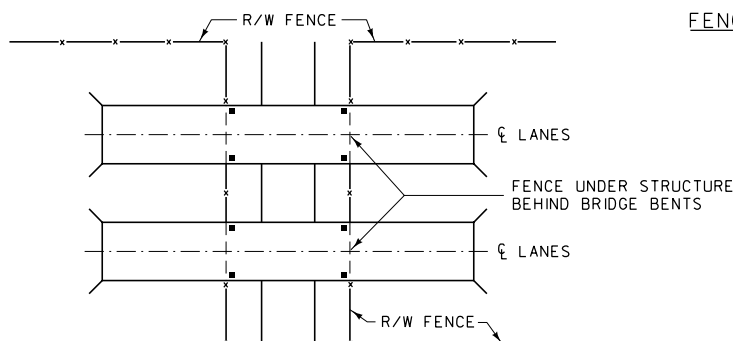
FENCE LAYOUT AT CHANGE IN R/W WIDTH



FENCE LAYOUT AT STOCKPASS, BRIDGES AND LARGE PIPES




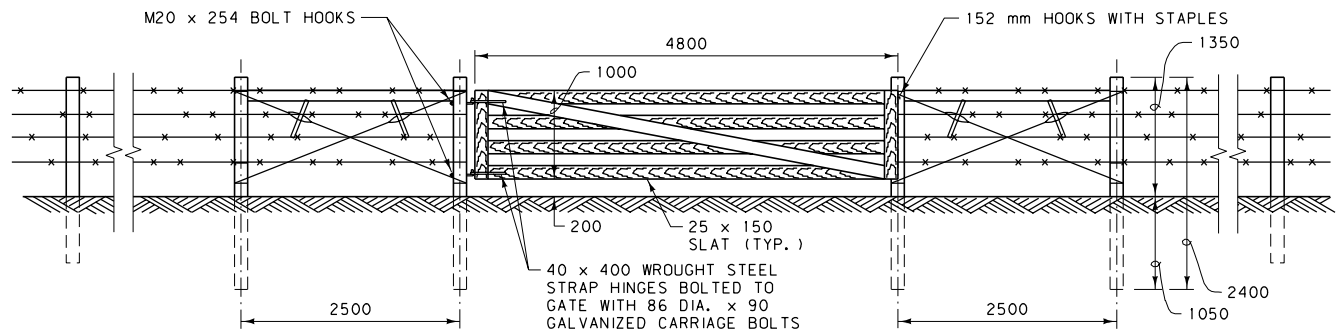
FENCE LAYOUT AT CROSS-FENCE CONNECTION



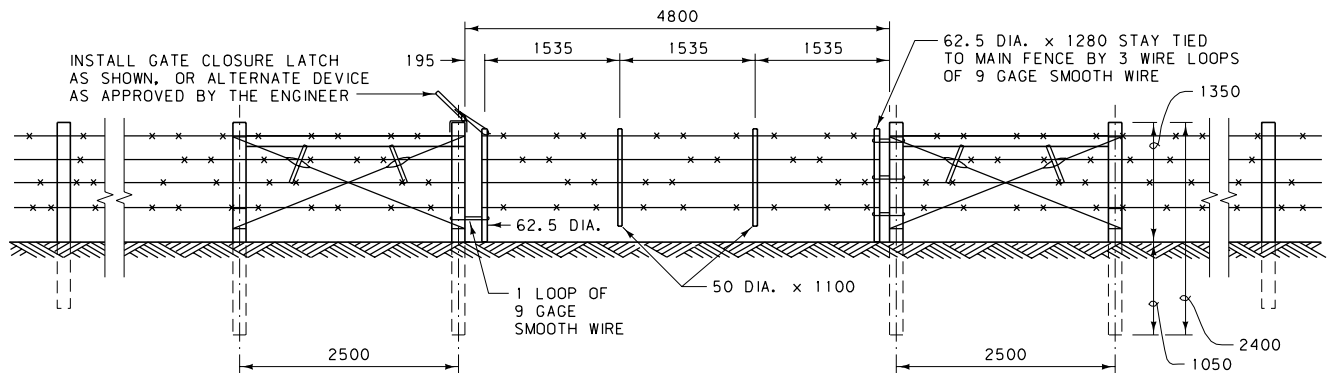
FENCE LAYOUT AT LOCAL ROAD UNDER INTERSTATE

ALL DIMENSIONS ARE MILLIMETERS
(mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 607	DWG. NO. 607-15
FENCING DETAILS	
EFFECTIVE: FEBRUARY 2005	
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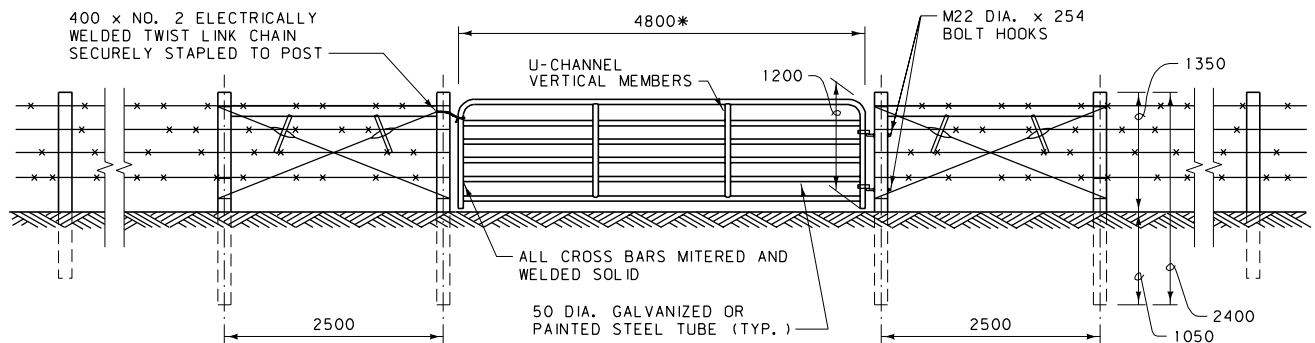


WOOD FARM ENTRANCE GATE (TYPE G-1)
NOTE: USE 10d NAILS AND CLINCH FOR GATE CONSTRUCTION.



WIRE FARM ENTRANCE GATE (TYPE G-2)

NOTE:
USE SAME WIRE SCHEME ON GATE
AS THAT USED ON FENCE, UNLESS
STATED OTHERWISE IN R/W AGREEMENT.



METAL FARM ENTRANCE GATE (TYPE G-3)


NOTES:

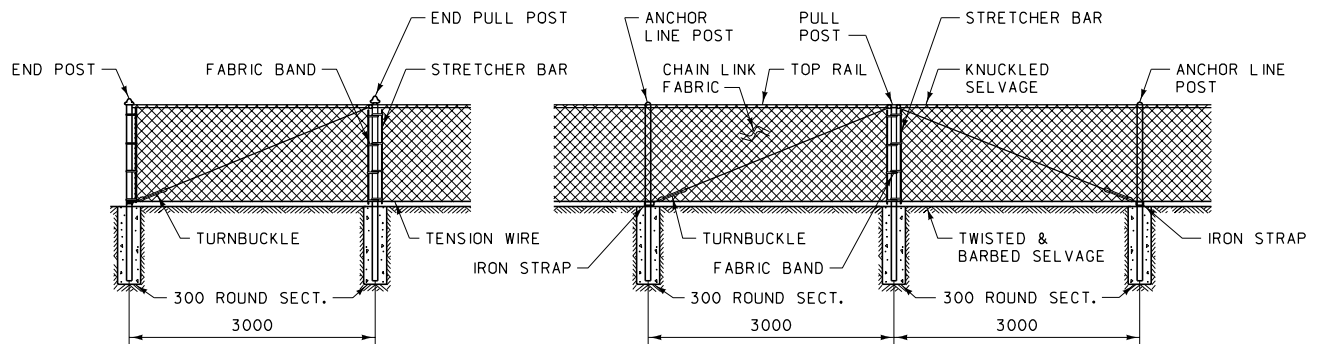
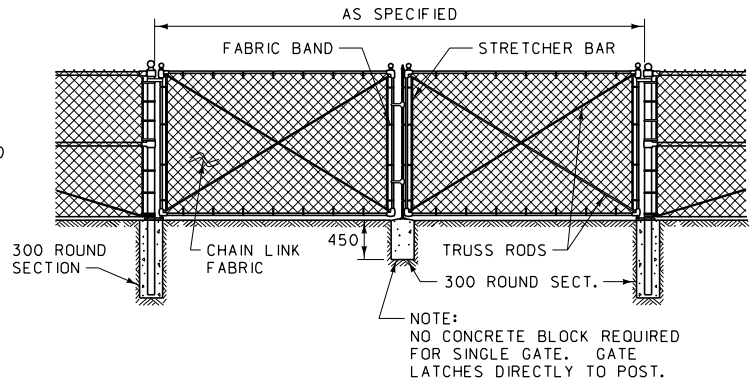
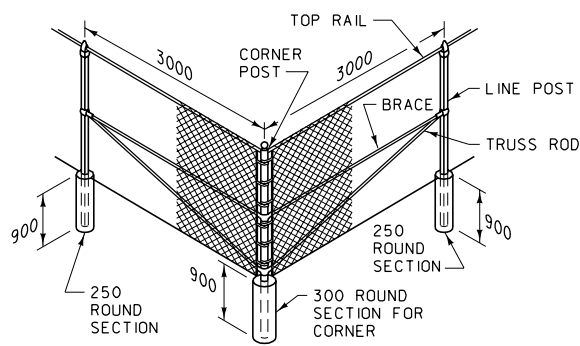
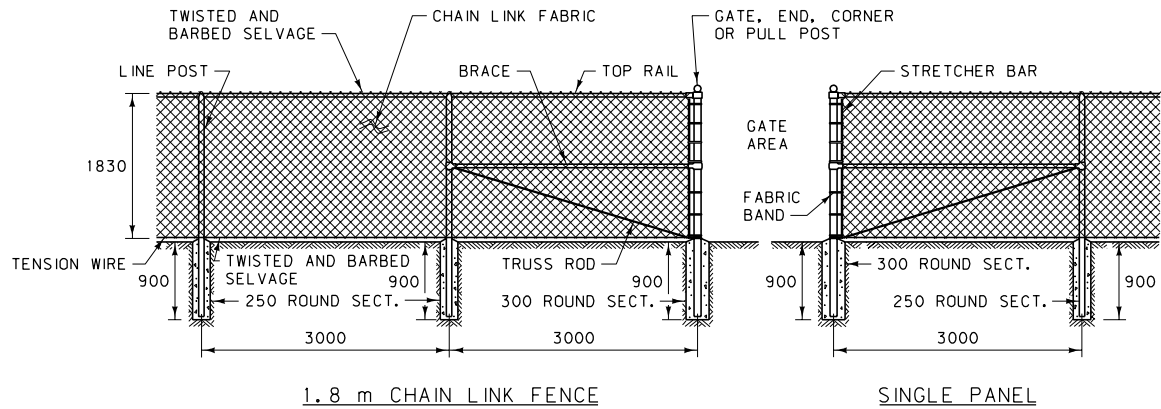
ALL GATES ARE 4800 mm WIDE UNLESS R/W AGREEMENT STATES OTHERWISE.

ALL GATES WILL HAVE A SINGLE OR DOUBLE PANEL AT EACH END.

* TYPE G-3 GATES ARE AVAILABLE IN WIDTHS FROM 1.2 m TO 6.0 m IN 0.6 m INCREMENTS.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 607	DWG. NO. 607-20
FARM ENTRANCE GATES	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION	



NOTES:

SEE THE STANDARD SPECIFICATIONS FOR FURTHER REQUIREMENTS.

DO NOT INSTALL DOUBLE PANELS MORE THAN 90 m APART ON TANGENTS OR MORE THAN 75 m APART ON ANY CURVE. FOR CURVES WITH A RADIUS SHARPER THAN 350 m, INSTALL A DOUBLE PANEL ON EACH CURVE END, PLUS ONE ADDITIONAL PANEL FOR EACH 10° OF DEFLECTION, EVENLY SPACED, BETWEEN THE CURVE ENDS.

PULL POST BRACING ON 1.8 m FENCE IS THE SAME AS CORNER BRACING.


A DROP BAR LOCKING DEVICE IS REQUIRED FOR ALL DOUBLE GATE INSTALLATIONS. THE DROP BAR MUST BE ABLE TO BE INSERTED INTO THE CONCRETE BLOCK AT LEAST 150 mm.

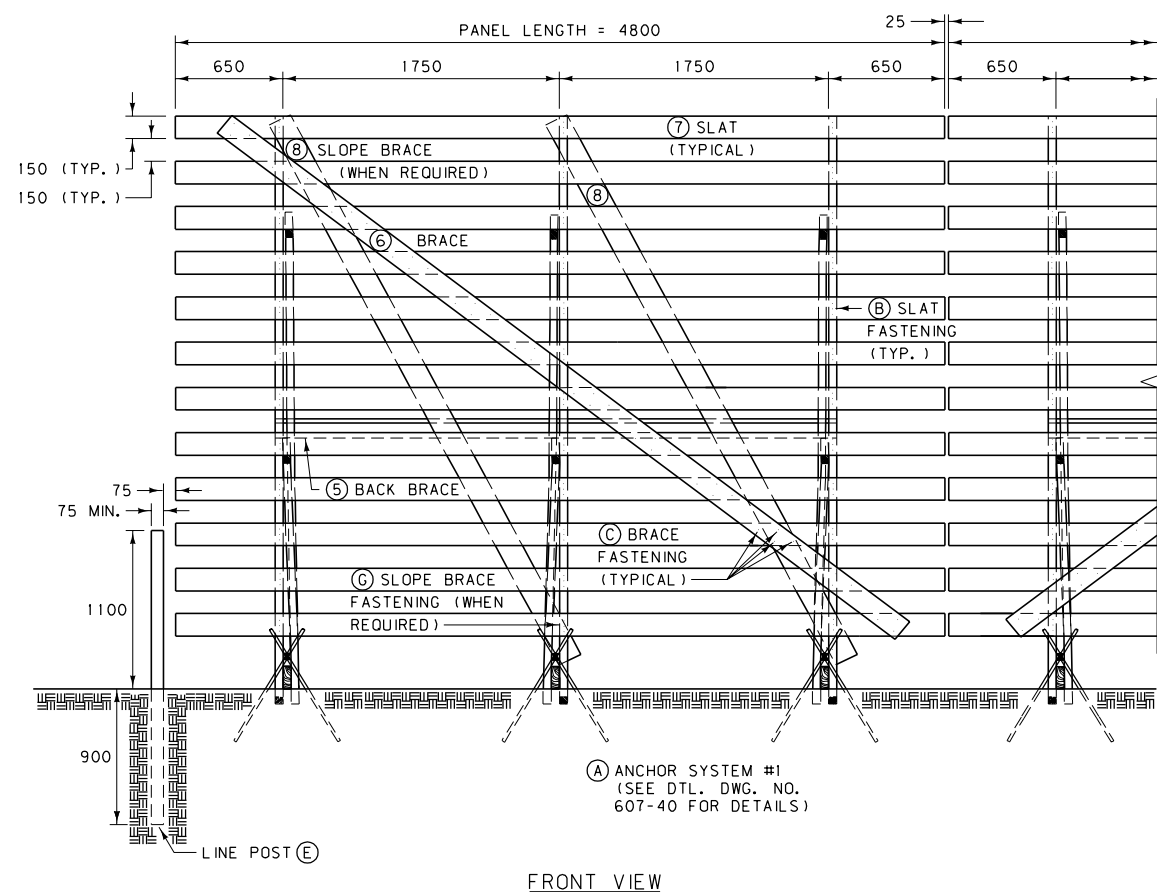
ALL CONCRETE IS CLASS "F" OR BETTER.

WHEN FENCE IS LESS THAN 15 m FROM THE EDGE OF A DRIVING LANE, USE A 9.5 mm DIA. GALVANIZED STEEL CABLE IN PLACE OF THE TOP METAL BRACE RAIL.

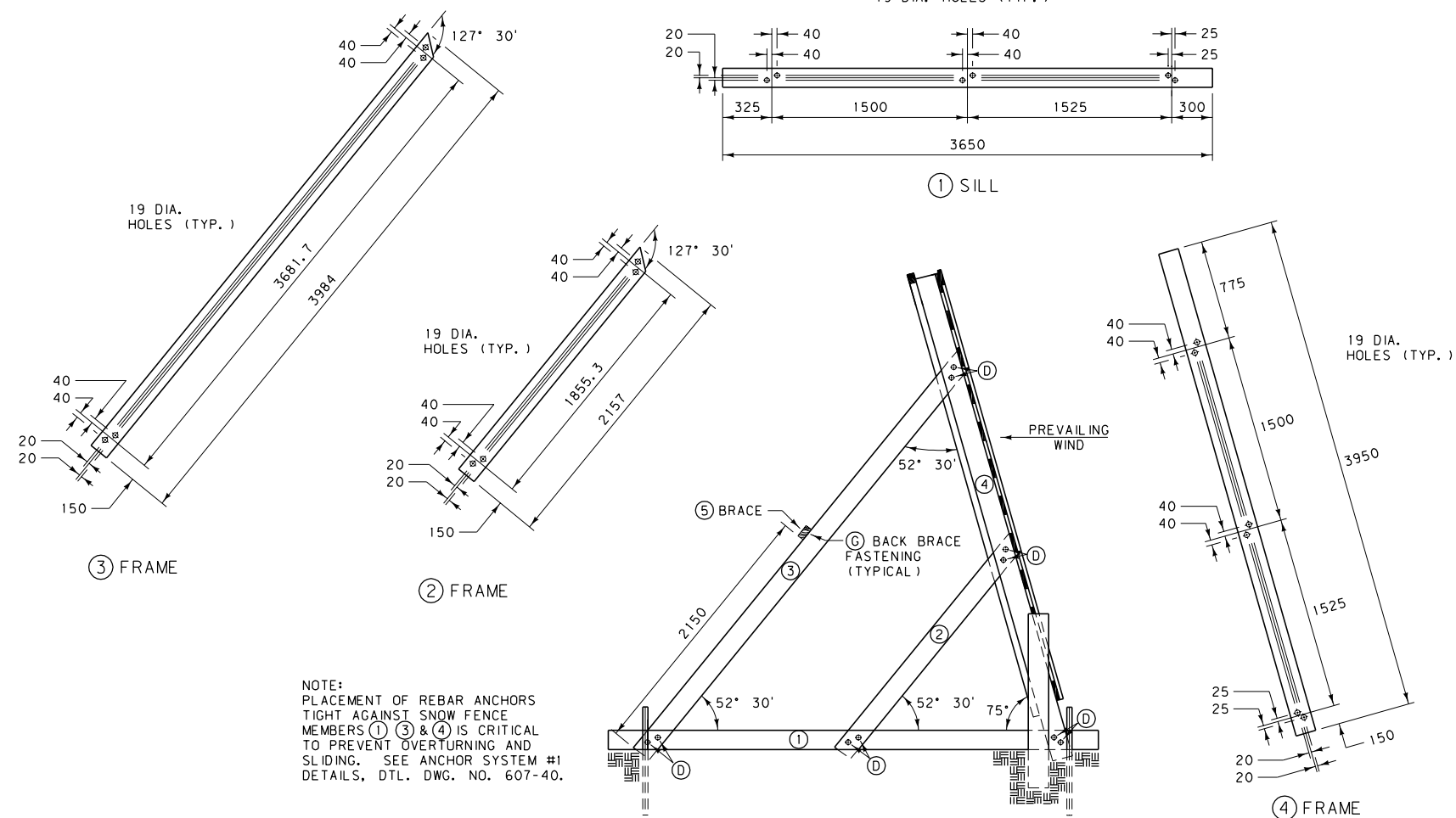
ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

HEIGHT OF FABRIC	WIRE FABRIC ABOVE GROUND	DEPTH OF CONCRETE	DEPTH OF POST IN CONC. (MIN.)
1830	25 TO 50	900	800
1525	25 TO 50	900	800
1220	25 TO 50	750	650
915	25 TO 50	750	650

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 607	DWG. NO. 607-25
CHAIN LINK FENCE	
EFFECTIVE: FEBRUARY 2005	
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FRONT VIEW



END VIEW

GENERAL NOTES

- (A) ANCHOR SYSTEM DETAIL
USE ANCHOR SYSTEM #1 UNLESS SOIL AND MOISTURE CONDITIONS NECESSITATE THE USE OF AN ALTERNATE SYSTEM, OR AS DIRECTED BY THE ENGINEER. CONSULT DETAILED DRAWING NUMBERS 607-40 AND 607-45 FOR ANCHOR SYSTEMS #3 (ROCKY CONDITIONS) AND #2 (SWAMPY CONDITIONS).
- (B) SLAT FASTENING
FASTEN SLATS TO THE FRAME WITH 3 ~ 12d COMMON BARBED SHANK NAILS AT EACH LOCATION.
- (C) BRACE FASTENING
FASTEN BRACES TO THE FRAME WITH 4 ~ 8d COMMON NAILS AT EACH LOCATION AND CLINCH.
- (D) FRAME TO SILL AND FRAME TO FRAME FASTENING
FASTEN THE SILL AND FRAME MEMBERS TO THE FRAME AT EACH LOCATION WITH 2 ~ M16 x 127 mm STANDARD MACHINE BOLTS, EACH WITH HEX NUT AND TWO FLAT WASHERS. SEE NOTE (X) AT RIGHT.
- (E) LINE POSTS
PLACE LINE POSTS AT EACH END OF EACH LINE OF SNOW FENCE AS SHOWN. POSTS ARE 2000 mm LONG WITH A MINIMUM DIAMETER OF 75 mm AND A MAXIMUM DIAMETER OF 150 mm. BUTT TREAT 900 mm MINIMUM.
- (F) WIRE TIE
USE 12 GAGE OR HEAVIER GALVANIZED WIRE TO FORM THE WIRE TIES.
- (G) BACK & SLOPE BRACE FASTENING
FASTEN BACK BRACES TO THE FRAME WITH 2 ~ 16d NAILS, AND FASTEN THE SLOPE BRACES WITH 3 ~ 16d BARBED SHANK NAILS AT EACH LOCATION.


LUMBER - 3.6 m SNOW FENCE W/ ANCHOR SYSTEM #1			
BILL OF MATERIALS FOR ONE PANEL			
ITEM NO.	NO. OF PIECES	LUMBER SIZE	DESCRIPTION
①*	3	50 x 150 x 3650	SILL
②*	3	50 x 150 x 2157	FRAME
③*	3	50 x 150 x 3984	FRAME
④*	3	50 x 150 x 3950	FRAME
* NOTE: PRESSURE TREAT ALL 50 x 150 MEMBERS (ENTIRE FRAME)			
⑤	1	50 x 100 x 3650	BACK BRACE
⑥	1	25 x 150 x 5400	BRACE
⑦	12	25 x 150 x 4800	SLAT
⑧**	2	50 x 150 x 4000	SLOPE BRACE
** NOTE: USE ONLY WHEN SLOPE IS 5:1 OR GREATER			

HARDWARE - 3.6 m SNOW FENCE W/ ANCHOR SYSTEM #1		
BILL OF MATERIALS FOR ONE PANEL		
QUANTITY	DESCRIPTION	
①	30	M16 x 127 HEX BOLT (THREADED FULL LENGTH) AND NUT
②	60	FLAT WASHER FOR M16 BOLT
③	0.23 kg	8d COMMON NAILS
④	0.76 kg	12d COMMON BARBED SHANK NAILS
⑤	0.23 kg	16d COMMON BARBED SHANK NAILS
⑥	12	#19 REBAR x 1500
⑦	6 PIECES	12 GAGE TIE WIRE x 1500 ±

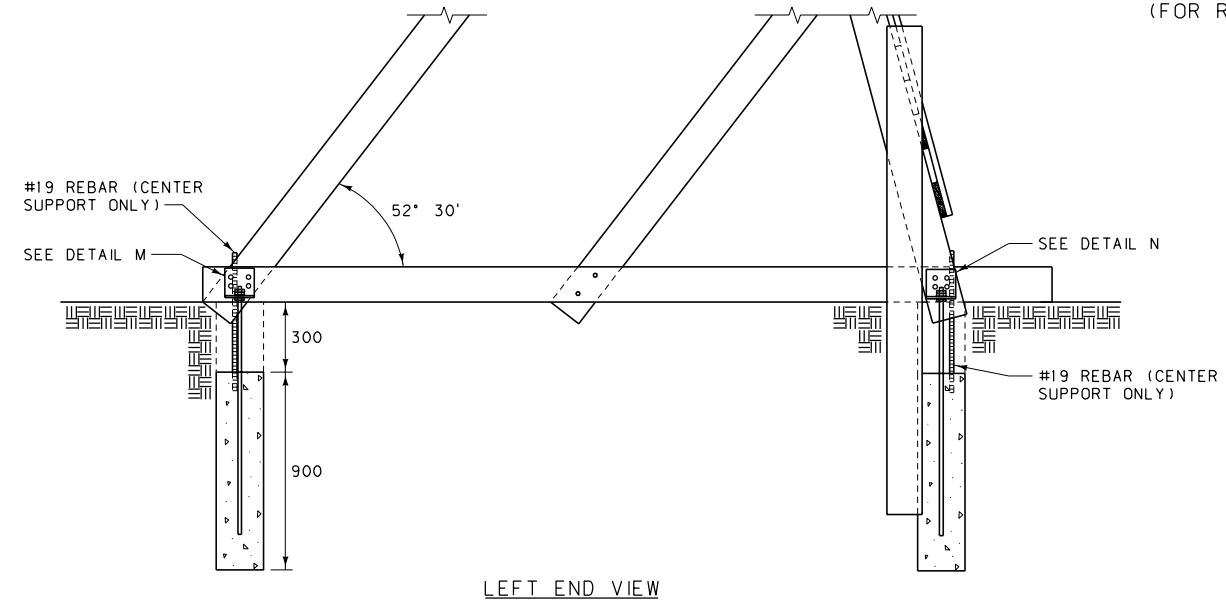
ALL NAILS MAY BE EITHER HAND DRIVEN OR DRIVEN WITH A PNEUMATIC NAILER.

- (X) NOTE:
AFTER M16 BOLTS HAVE BEEN TIGHTENED, BURR THE THREAD DIRECTLY BEHIND THE NUT TO PREVENT EVENTUAL LOOSENING OF THE NUTS.

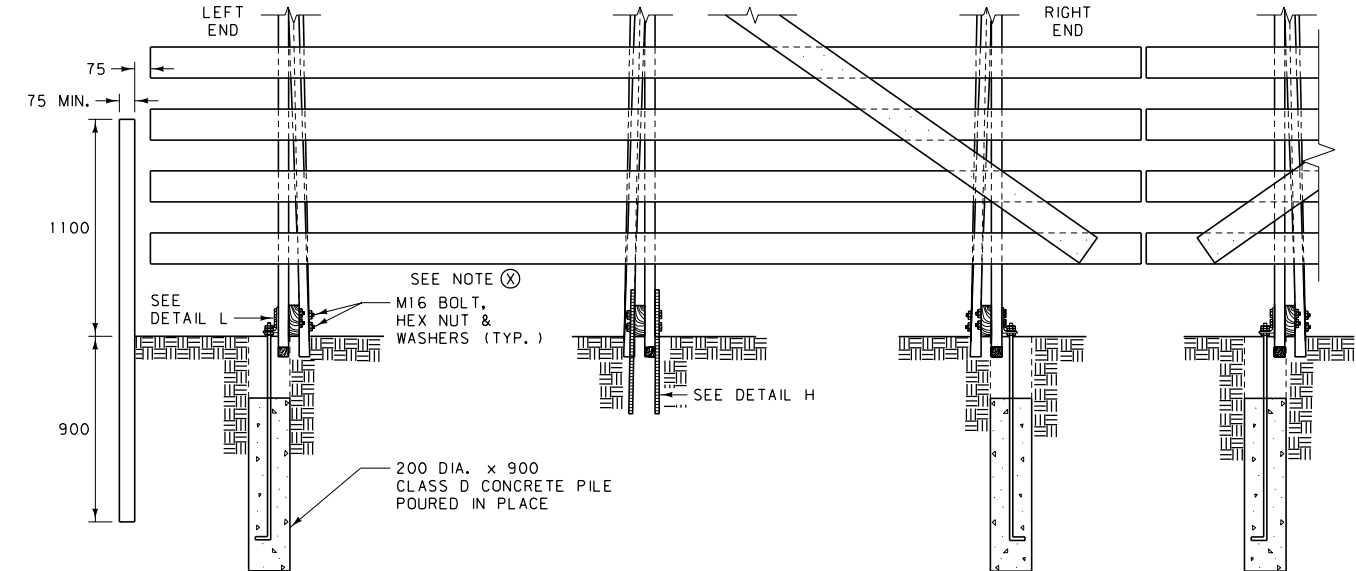
ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 607	DWG. NO. 607-35
3.6 m WOOD SNOW FENCE W/ ANCHOR SYSTEM #1	
EFFECTIVE: FEBRUARY 2005	
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ANCHOR SYSTEM #3
(FOR ROCKY CONDITIONS)

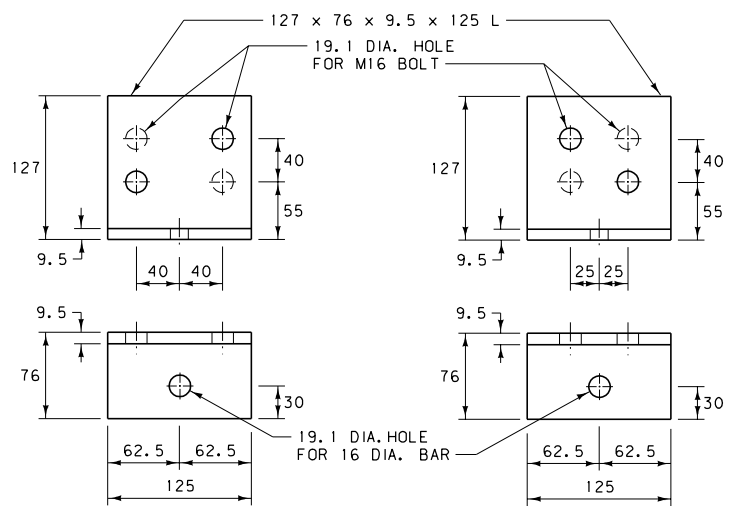


LEFT END VIEW



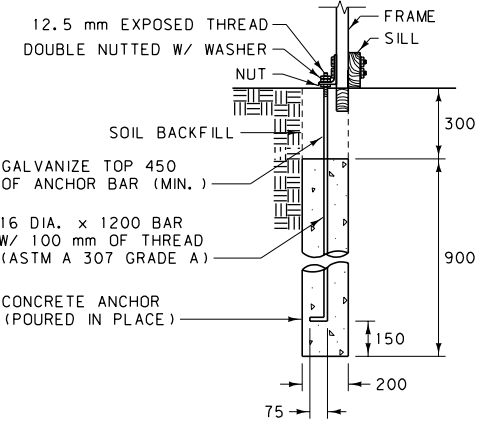
FRONT VIEW

NOTE:
HOLES SHOWN IN DETAILS BELOW ARE FOR LEFT END OF FENCE.
HOLES SHOWN HIDDEN ARE FOR RIGHT END OF FENCE.

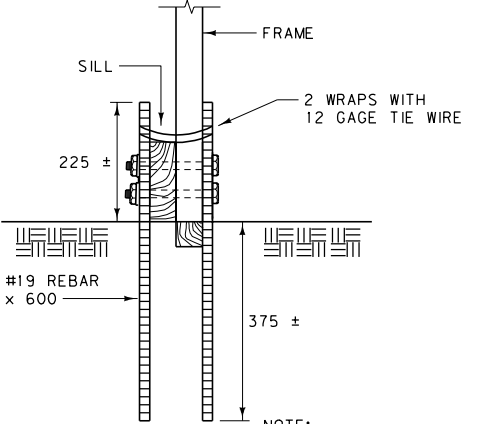


DETAIL M

DETAIL N



DETAIL L



DETAIL H

LUMBER - SNOW FENCE W/ ANCHOR SYSTEM #3

BILL OF MATERIALS FOR ONE PANEL

SAME AS FOR SNOW FENCE W/ ANCHOR SYSTEM #1

HARDWARE - SNOW FENCE W/ ANCHOR SYSTEM #3

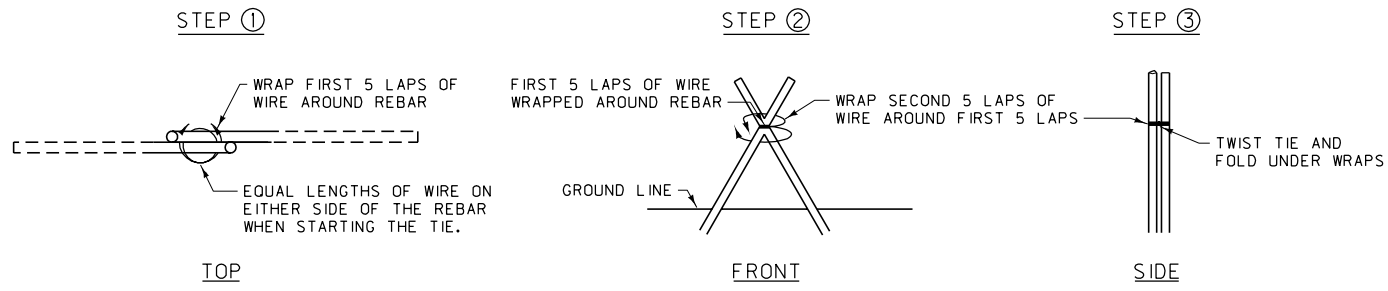
BILL OF MATERIALS FOR ONE PANEL

QUANTITY	DESCRIPTION
4	127 x 76 x 9.5 x 127.0 L
4	16 DIA. x 1200 BAR W/ 3 HEX NUTS
4	FLAT WASHERS FOR 16 DIA. BAR
0.113 m ³	CLASS D CONCRETE
4	#19 REBAR x 600
4 PIECES	12 GAGE TIE WIRE x 600 ±
30	M16 x 127 HEX BOLT (THREADED FULL LENGTH) AND NUT
60	FLAT WASHERS FOR M16 BOLT

NOTE: NAILS REQUIRED ARE SAME AS SHOWN ON HARDWARE SUMMARY FOR SNOW FENCE W/ ANCHOR SYSTEM #1

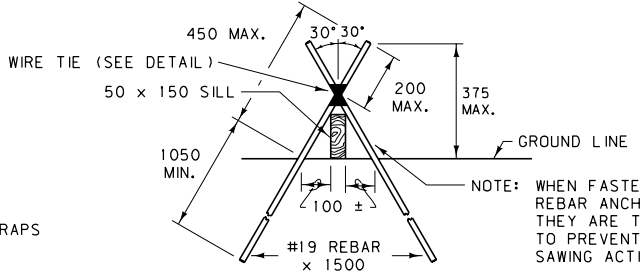
⊗ NOTE:
AFTER M16 BOLTS HAVE BEEN TIGHTENED,
BURR THE THREAD DIRECTLY BEHIND THE NUT
TO PREVENT EVENTUAL LOOSENING OF THE NUTS.

ANCHOR SYSTEM #1
(STANDARD)



WIRE TIE DETAIL


USE 12 GAGE OR HEAVIER GALVANIZED WIRE TO FORM THE WIRE TIES.



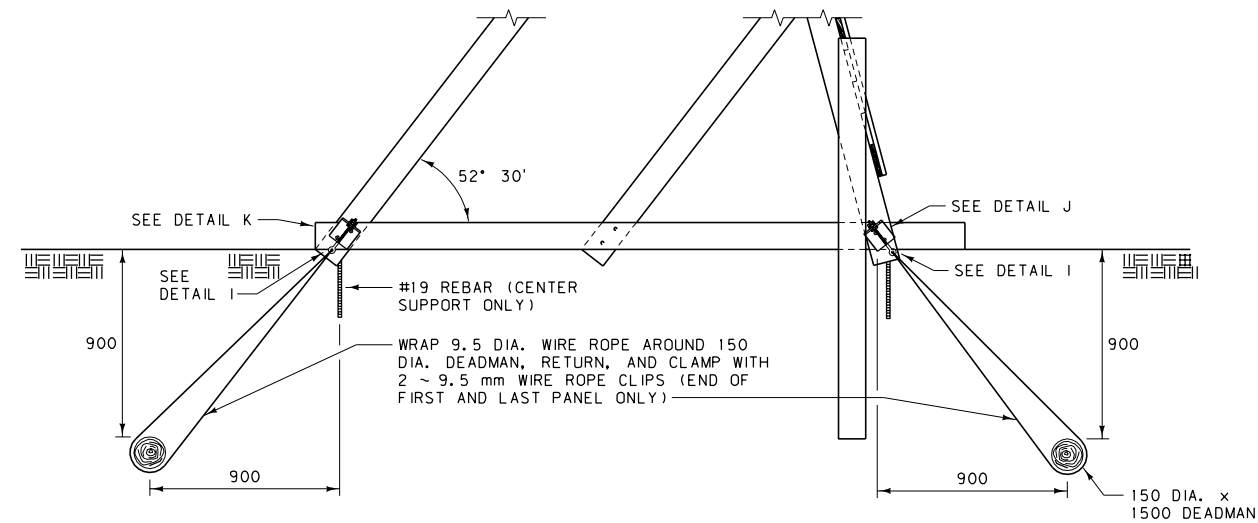
USE TWO #19 REINFORCING BARS FOR EACH END OF EACH SILL MEMBER. DRIVE THE BARS UP TIGHT TO THE FRAME TO PREVENT SLIDING. TIE THE REINFORCING BARS AS SHOWN IN THE WIRE TIE DETAIL. THE PLACEMENT OF THE ANCHORS IS CRITICAL IN PREVENTING OVERTURNING AND SLIDING OF THE FENCE.

STANDARD ANCHOR DETAIL

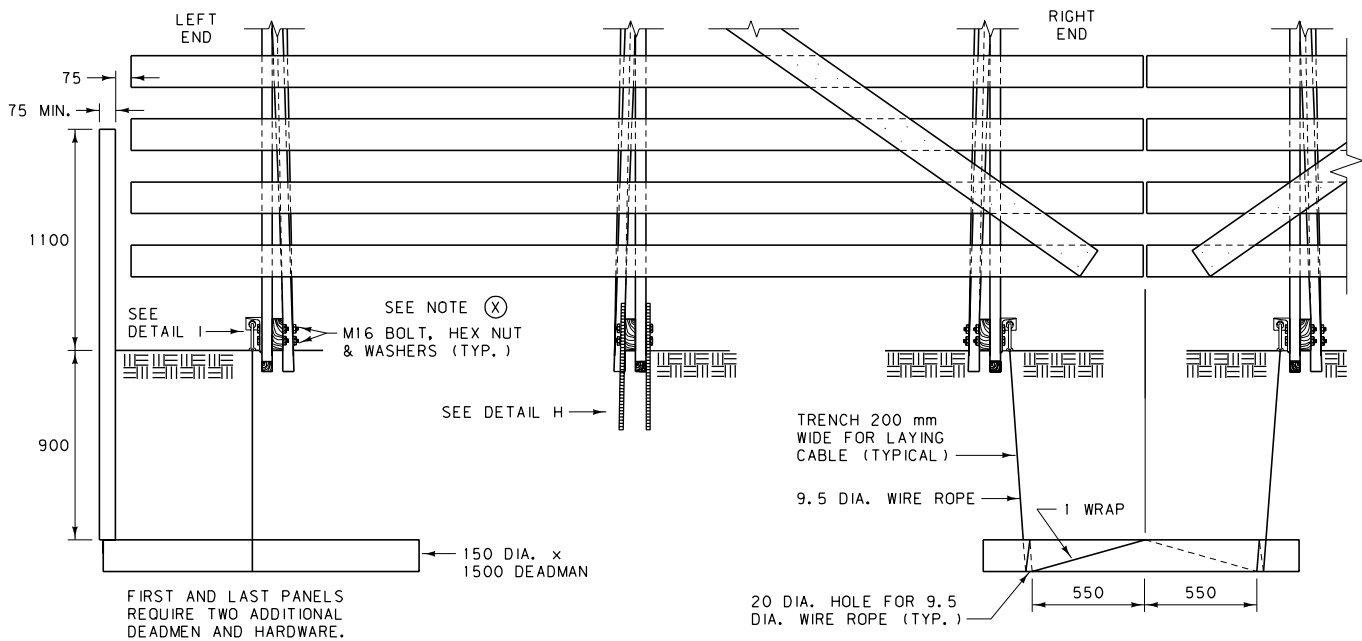
ALL DIMENSIONS ARE MILLIMETERS
(mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE	DWG. NO.
STANDARD SPEC.	607-40
SECTION 607	
WOOD SNOW FENCE ANCHOR SYSTEM #3 AND #1 DETAILS	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION	

ANCHOR SYSTEM #2
(FOR SWAMPY CONDITIONS)

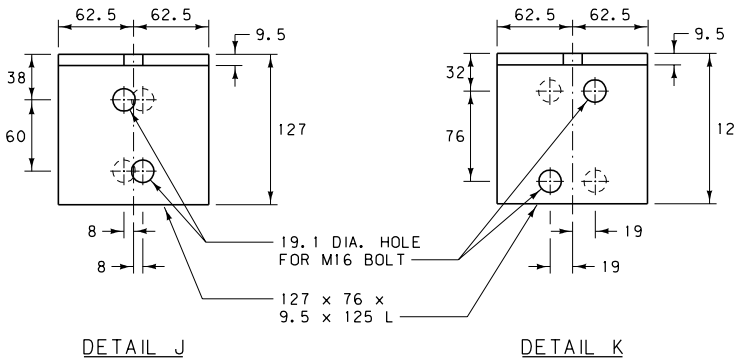
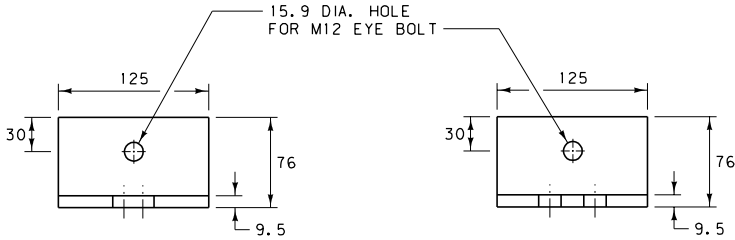


LEFT END VIEW



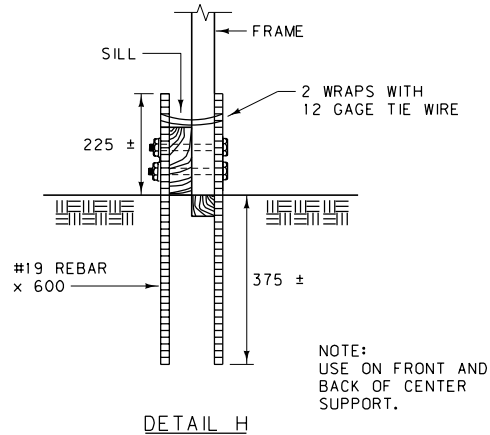
FRONT VIEW

NOTE:
HOLES SHOWN IN DETAILS BELOW ARE FOR LEFT END OF FENCE.
HOLES SHOWN HIDDEN ARE FOR RIGHT END OF FENCE.

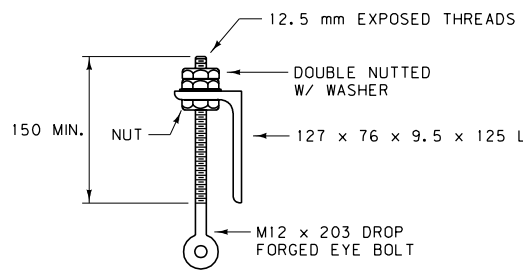


DETAIL J

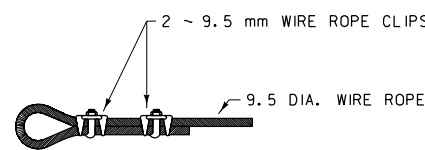
DETAIL K



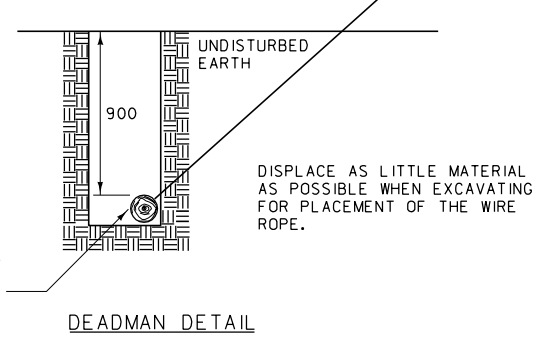
DETAIL H



DETAIL I



WIRE ROPE CONNECTION




DEADMAN DETAIL

LUMBER - SNOW FENCE W/ ANCHOR SYSTEM #2	
BILL OF MATERIALS FOR ONE PANEL	
SAME AS FOR SNOW FENCE W/ ANCHOR SYSTEM #1	

HARDWARE - SNOW FENCE W/ ANCHOR SYSTEM #2	
BILL OF MATERIALS FOR ONE PANEL	
QUANTITY	DESCRIPTION
4	127 x 76 x 9.5 x 127.0 L
8	9.5 mm WIRE CLAMPS
4	M12 DROP FORGED EYEBOLTS W/ 3 HEX NUTS
4	FLAT WASHERS FOR M12 EYEBOLTS
4	#19 REBAR x 600
4 PIECES	12 GAGE TIE WIRE x 600 ±
8500 mm	9.5 DIA. WIRE ROPE
2	150 DIA. x 1500 POST DEADMEN
30	M16 x 127 HEX BOLT (THREADED FULL LENGTH) AND NUT
60	FLAT WASHERS FOR M16 BOLT
NOTE: NAILS REQUIRED ARE SAME AS SHOWN ON HARDWARE SUMMARY FOR SNOW FENCE W/ ANCHOR SYSTEM #1	

⊗ NOTE:
AFTER M16 BOLTS HAVE BEEN
TIGHTENED, BURR THE THREAD
DIRECTLY BEHIND THE NUT TO
PREVENT EVENTUAL LOOSENING
OF THE NUTS.

ALL DIMENSIONS ARE MILLIMETERS
(mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 607	DWG. NO. 607-45
WOOD SNOW FENCE ANCHOR SYSTEM #2 DETAILS	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION	